

April
2021

Fire Line Newsletter

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From the Balcony – A Critical Vote for Public Safety

As I write this month’s column we are kicking into overdrive to gain the necessary support for the Public Safety Referendum which, if successful, will net FDLFR six additional firefighter/paramedics. The addition would increase our shift workforce by 10% and provide a fourth ALS ambulance to our daily staffing.

The decision to go to referendum is never an easy one. When I was asked several years ago by then City Council Member Brian Foster when did I think our staffing would reach a point of needing additional members I guessed it would be within five years. From that point forward we began to closely look at our responses analyzing data related to how often our ambulances are out simultaneously creating a shortfall in our response capabilities. By the time we formally requested extra staffing we had enough data to support our request. We are at a critical crossroad for public safety in Fond du Lac.

We have worked with the IAFF, PFFW and Local 400 to boost communication and outreach to our community. It takes time, commitment and funding to help push messages out to the voters and these entities have stepped up big! Engagement from all 67 members has been critical to our success.

The greatest supporting cast to our referendum success is each of our members. Your collective talent on a regular and consistent basis is truly what will be our greatest asset with our citizens when they go and vote on April 6th. Through your dedicated service to them, both on and off duty, you have helped set us up for a positive outcome. You have earned the respect and admiration of the people we protect and regardless of the outcome of the election, that won’t change. I believe we will have overwhelming support on April 6th.

I thank you once again for pushing for excellence and making our fire rescue the best in the state.

*Until Next Month,
Be Safe and
Be Well*

**Fire Chief
Peter O’Leary**



FOND DU LAC FIRE RESCUE OPERATIONS

By: Assistant Chief
Erick Gerritson



Ending harassment in the fire service is everyone's responsibility.

Harassment is a systemic issue, meaning it's not simply an isolated issue between two people.

In reaction to a recent news item about a firefighter filing harassment charges at the end of his career, someone commented dismissively, "I've never known someone to stay in a job where they felt disrespected or were harassed in any manner."

Despite this individual's personal experience, there are several reasons why someone who is being harassed on the job might not address it or even fully recognize it for what it is while it is happening.

Harassment is about power, and most harassment involves people with different levels of power within the organization. This power might be positional, such as a new firefighter being mistreated by a senior officer, or it might involve more informal status differences among a group. One of the first lessons firefighters learn is that you challenge the existing power structure in your organization at your own peril.

And harassment isn't just one thing. It is most often a pattern of inappropriate behavior that may occur and change over a long period of time. What might be rationalized at first as rite-of-passage testing or teasing can become long-term degradation

and humiliation. It can happen so gradually that even the target may not see it clearly. And if everyone else around that person acts like the behavior is normal, it can be hard to step up and identify it any other way.

The fear of retaliation is a big reason why some victims of harassment fail to speak up. This fear is real enough that there are laws in place to address it. But firefighters are pragmatic by nature. They might know that what is happening is bad but wonder if speaking up will make things even worse.

And along the lines of pragmatism is the fact that most people need the jobs that they have. Making a harassment claim against a coworker or an organization can make a person's work life untenable, even if their accusations are upheld. Although younger people may be more likely to leave a job when they experience harassment, the majority stay. This is especially true for those who are more deeply invested in their work and who have real obligations and others depending on them for support.

Firefighters know that the job can be hard. It's what they signed up for. When harassment occurs, they may be more likely to tough it out than deal with it directly.

WE ARE ALL RESPONSIBLE

Ultimately, the target of harassment should not be responsible for ending it. Harassment, by definition, is a pattern of behavior, and when patterns exist in the workplace, others are always aware of them. So, what responsibility do others have to end harassment, even if they do not seem to be directly impacted by it?

All firefighters have the obligation to take care of each other. They do it on the fire scene. They should do it everywhere. If you see something going on between two coworkers that doesn't seem right, you should say something.

To the person targeted, you can ask questions: "Were you OK with that? What's going on? Do you want to talk about it?" They may not choose to share much with you, but they will likely appreciate being asked.

To the person who seems to be harassing another, you can also ask questions: "What did you mean by that? What's going on between the two of you?"

You can also express how witnessing the interaction made *you* feel—for example, "I'm really not OK with that."

Workplace harassment is a systemic issue, which means that officers have a special responsibility for recognizing it and stopping it. Too often,

Ending harassment in the fire service is everyone's responsibility. Continued

officers will look the other way, avoid confrontation, or even enable bad behavior. But officers must speak up to inappropriate behavior-and the sooner the better.

Officers also have the responsibility for being the grownups in the room when group behavior may begin to go off the rails. Most people have been in

a group where something that may have started out being funny crossed over into unprofessional language or actions. Officers must recognize that while they are part of the crew, they are also leaders of that crew and need to set the tone and redirect when necessary.

HARASSMENT HURTS EVERYONE

Some people think harassment is a personal problem between two people, and that all that is necessary to stop it is for one person to say something. This perception denies the reality of harassment as a systemic problem based in the abuse of power. Workplace harassment creates environments of polarization, isolation and broken trust.

It hurts everyone. And everyone has responsibility for ending it.

Reference: Linda Willing from FireRescue1.com

**Until Next Month,
Stay Safe!!**



Operations by the Numbers

February, 2020	By Month		Year-To-Date	
PREVENTION	Last Year	This Year	Last Year	This Year
Total Inspections	262	234	531	488
Total Defects	156	127	339	214
SUPPRESSION				
Alarms Involving Fire	6	10	19	16
Fire Mutual Aid Given	4	2	6	3
Fire Mutual Aid Received	0	2	0	2
Service/Good Intent Calls	44	38	96	80
False Alarms/False Calls	30	32	45	51
Other Calls	3	7	20	15
Total Fire Alarms & Calls	83	87	180	162
EMS				
Total Ambulance Calls	512	487	1043	1005
Total Fire/EMS Responses	595	574	1223	1167
Fire Property Loss	\$70,000.00	\$54,763.00	\$146,000.00	\$110,763.00
Fire Contents Loss	\$42,000.00	\$26,500.00	\$88,000.00	\$57,500.00
Engine Assisted EMS Calls	208	193	426	410



The Code Summary

By: Assistant Chief Todd Janquart

3 Things Paramedics Need to Know About Respiratory Compromise, Pneumonia, and Sepsis

Authored by: Bob Sullivan of EMS1.com

Pneumonia is the leading cause of infectious death in industrialized countries [1]. According to the American Lung Association, pneumonia causes more than 1 million hospitalizations and more than 50,000 deaths each year.

Much of the morbidity, mortality, and health care costs associated with pneumonia occur when it progresses to sepsis. EMS plays an important role in identifying pneumonia, identifying sepsis caused by pneumonia and treating the respiratory and circulatory complications associated with pneumonia and sepsis.

Here are three things you should know about pneumonia and sepsis:

1. PNEUMONIA CAUSES INFLAMMATION OF A SECTION OF LUNG THAT IMPAIRS AIR EXCHANGE

Pneumonia is caused by an immune response to pathogens that colonize an area of the lung. The inflammatory response causes fluid or pus to accumulate in the alveoli and prevents oxygen exchange over the area affected. Pneumonia can be caused by a bacterial, viral or fungal infection.

The most common route of pneumonia infection is aspiration of saliva or nasal

secretions that harbor bacteria. Pneumonia can also be acquired from inhaling droplets containing a bacteria or virus. Streptococcus pneumoniae is the most common bacterial cause of pneumonia, while influenza and respiratory syncytial virus are the most common causes of viral pneumonia.

Immunocompromised patients are also at risk of pneumonia by inhaling fungal spores.

A remote infection, such as a urinary tract infection, or infection from an indwelling catheter or tracheostomy, can also travel to the lungs and cause pneumonia.

Aspiration of gastric contents is a non-infectious cause of pneumonia, which occurs when patients who cannot protect their upper airway vomit. Known as chemical pneumonitis, acidic gastric contents produce burning to the tracheobronchial tree when aspirated, followed by

inflammation and impaired gas exchange in the lungs.

Elderly, immunocompromised patients, patients with chronic lung disease and smokers have an increased risk for pneumonia. A depressed gag reflex, such as from alcohol intoxication, overdose, head injury, stroke or seizure increases the risk of aspiration pneumonia. Patients whose upper airway is bypassed, such as from intubation or a tracheostomy, are also at high risk for aspiration pneumonia.

The severity of pneumonia from any cause depends on how much surface area of the lung is affected by inflammation, which is based on the virulence of the invading pathogen, the strength of the immune response and the patient's overall health.

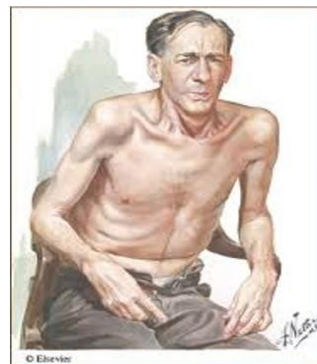
2. LOOK FOR A GRADUAL ONSET OF DIFFICULTY BREATHING, FEVER AND LOCALIZED ABNORMAL LUNG SOUNDS TO IDENTIFY PNEUMONIA

Patients with pneumonia usually report a gradual onset of difficulty breathing, along with fever and chills, a productive cough and chest pain associated with the cough. Localized or unilateral crackles, rhonchi, wheezes or diminished breath sounds may be heard over the affected area of the lungs. However, elderly and immunocompromised patients may not have a fever with infection. Cough reflex also diminishes with age, so

elderly patients with pneumonia may not have a productive cough. Consider pneumonia as a differential diagnosis in elderly patients with vague complaints, such as altered mental status.

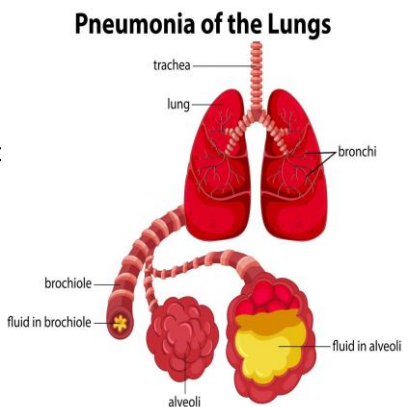
A definitive pneumonia diagnosis is made by chest X-ray in the hospital.

Pneumonia can cause hypoxia and increased work of breathing. Assess skin color and pulse-oximetry to identify hypoxia and



administer oxygen via nasal cannula or nonrebreather mask to titrate a pulse oximetry reading of 94 percent.

For patients who are awake and protecting their airway, CPAP can improve work of breathing and oxygenation in patients who remain hypoxic after supplemental oxygen. CPAP works by increasing pressure in the lungs and improves oxygenation and ventilation across the area affected by pneumonia



3 Things Paramedics Need to Know About Respiratory Compromise, Pneumonia, and Sepsis Continued

and recruits collapsed alveoli surrounding the affected area.

In addition to auscultating lung sounds, waveform capnography is a useful tool to identify bronchospasm in pneumonia. Patients with wheezes or diminished breath sounds, along with a slurred, shark fin appearance on the capnogram, have constricted lower airways and benefit from nebulized albuterol.

The more pronounced the shark fin on the capnograph, the more severe the bronchospasm. Shifts in the capnography waveform toward or away from a normal rectangular shape show how well the patient is responding to treatment.

Pneumonia can cause respiratory failure and decreased mentation. Patients may have secretions in their upper airway that require suctioning and require assisted ventilation with a bag valve mask.

Waveform capnography can be used with a bag valve mask or advanced airway to determine airway patency and effective air exchange in the lungs. Capnography is also the most reliable method to confirm advanced airway placement and provides continuous feedback on respiratory rate to help avoid hypo or hyperventilation.

Patients with pneumonia are also frequently dehydrated. Consider administering IV fluids to suspected pneumonia patients who are hypotensive, feel weak, have dry mucus

membranes or poor skin turgor.

3. LOOK FOR VITAL SIGN CHANGES AND ABNORMAL ETCO2 TO IDENTIFY PNEUMONIA WITH SEPSIS

When the body's immune response to pneumonia becomes systemic and causes sepsis, the respiratory compromise may be further complicated by metabolic acidosis and shock. Sepsis is a systemic immune response that can progress to cause widespread vasodilation, fluid to leak out of the vascular space and microclots to form in small blood vessels, which leads to tissue hypoxia and organ failure.

Early identification, IV fluid administration and antibiotic administration are key to patient survival from severe sepsis. Many EMS systems are involved in sepsis alert programs to notify the hospital and streamline treatment similar to trauma, STEMI and stroke systems.

For patients with suspected pneumonia, consider sepsis in patients with two or more of the following vital signs that suggest systemic inflammatory response syndrome (SIRS):

Pulse above 90
Respiratory rate above 20
Temperature above 38C (101F) or or below 36C (97F)

In addition to vital signs and physical exam, capnography has been shown to determine

the severity of sepsis and predict mortality in patients with sepsis [5]. Tissue hypoxia leads to anaerobic metabolism, which causes metabolic acidosis. As the patient's respiratory rate increases to compensate for metabolic acidosis, excess CO2 is eliminated.

Normal end-tidal CO2 level is between 35 and 45 mm Hg. A study 201 adult patients in Orlando found that abnormal ETCO2 (above 45 mm Hg or below 35 mm Hg) in patients who meet SIRS criteria (from all causes) had a mortality rate six and a half times higher than those with normal ETCO2 levels. The authors also concluded that a persistent ETCO2 reading below 25 mm Hg correlated with an lactate level above 4 mmol/L, which is a blood test used to detect metabolic acidosis and organ dysfunction from severe sepsis.

For pneumonia patients, an abnormal ETCO2 level identifies patients who are at high risk for decompensation. In addition to managing respiratory problems associated with pneumonia, administer IV fluid boluses(20 to 30 ml/kg) to patients with suspected sepsis, even if they are not hypotensive. Abnormal ETCO2 with pneumonia also identifies pneumonia patients who should receive an urgent triage assignment in the emergency department.

A limitation to using capnography to detect sepsis

is that patients with pneumonia may have an abnormal baseline ETCO2, especially if they have COPD (COPD patients were excluded from the Orlando study) [5]. Consider the patient's history and whether the capnogram has a shark-fin appearance when when using capnography to assess pneumonia patients who may have sepsis.

For pneumonia patients in respiratory failure, capnography should be used with caution to guide assisted ventilation rate. While waveform capnography has been used to avoid hyperventilation in intubated head injured patients, the ETCO2 of septic patients with pneumonia may be low before assisted ventilation [5,6]. Titrating assisted ventilation rate to the normal range of 35 to 45 mm Hg in pneumonia patients with sepsis may cause hypoventilation. Use feedback from capnography to ventilate pneumonia patients at 10 to 12 breaths per minute, but not to titrate a normal ETCO2 level.

EMS recognition and treatment of pneumonia and sepsis can have a significant effect on patient outcomes. Use history, physical exam and monitoring tools to identify pneumonia and sepsis, to guide treatment decisions and assess response to treatment.

What you get by achieving your goals is not as important as what you become by achieving your goals. Zig Ziglar

NEWS AT THE STATION



Fond du Lac Fire/Rescue (FDLFR) has become an internationally reaccredited agency. Several senior FDLFR staff members along with City Manager Joe Moore and Local 400 President Keith Wendt went before the Commission on Fire Accreditation International via Zoom to seek reaccreditation. The commission voted unanimously to again grant accredited status to FDLFR. Congratulations to everyone at FDLFR!



CONGRATULATIONS!
Firefighter/Paramedic Brian Westby
20 years at FDL Fire/Rescue!

FF/P Westby
started at FDLFR on April 9, 2001



Happy April Birthday

Brett Hefty • Jim Hoepfner • Rick Faris •
Mike Spencer • Curt Smits •
Ben Stephany • Noah Krielkamp



Well-trained people are the best defense against fire.

By: Assistant Chief of
Training/Safety
James Knowles III

Tactical Considerations for Vehicle Fires in Aboveground Parking Garages

Author: Thomas J. O'Connell

Serious vehicle fires in modern aboveground parking garages can present unique and difficult challenges to responding firefighters. Because of the infrequent nature of these events for individual officers and crews, a review of tactical considerations for these incidents can be helpful in ensuring a safe and effective outcome.

Modern aboveground parking garages are built with cost effectiveness in mind. They are typically no-frills structures that incorporate minimal fire protection features and maximize all available space including height (photo 1). Fortunately, most of these structures are constructed of cast-in-place concrete and precast concrete and present very little in the way of contributing to the fire load. Other garages use a steel frame, with or without spray-on fireproofing or encasement. Note: This article is restricted to "open air" garages and does not deal with enclosed aboveground parking garages and automated garages, which present their own unique problems.

The aboveground garage is basically a stacked parking lot. Ceiling height is usually no greater than roughly eight feet. Each level usually consists of a perimeter wall (or cable railing) of about

three to four feet in height. Each level is accessed by vehicle traffic using a ramp or a series of ramps. Pedestrian traffic accesses each level by stairwells and elevators. Ramps and sloped floors within the structure can have inclines as great as 15°. Rarely do the open-air parking garages have fire/smoke detection systems unless they are built underneath an occupied structure. Moreover, many of these structures only incorporate a Class I dry standpipe. Some of these structures may incorporate sprinkler systems.



Photo 1: A large multistoried open-air parking garage. Note vertical access issues posed by the trees.

FIRE SCENARIOS

The typical serious vehicle fire scenario on any level presents some challenges. Typically, the vehicle is sandwiched between at least two other vehicles and as many as three additional exposures if the vehicles are parked nose to nose. The low ceiling height prevents the

venting of heat and actually re-radiates it back down onto the vehicle and adjacent vehicles. The low ceiling height prevents rapid release of smoke and permits smoke to quickly bank down into our operating zone. The trapped smoke, in some cases, can make locating the burning vehicle difficult and set the stage for a very dangerous situation when civilians attempt to exit the structure by driving through the smoke with their personal vehicles, thereby placing firefighters at risk of being struck by a moving car within the garage.

Stretching the initial attack line can also be a challenge. One method for accomplishing this is to pull a preconnected 1½-inch line and hoist it to the level of the fire. More often than not, this method cannot be used because of the length of the stretch. Keep in mind that some of these aboveground parking garages have a footprint area of 350,000 to 600,000 square feet or more.

A second method involves using high-rise or hotel packs from existing standpipes if they are present. More often than not, the standpipe systems are dry systems that have been compromised by civilians in the way of

missing caps and opened valves. On more than one occasion, firefighters using these systems have found themselves unable to produce a proper fire stream and do not have the personnel or time to examine every standpipe outlet on every level. This is the reason local fire prevention personnel must be vigilant in keeping a close eye on maintenance on these systems, requiring periodic inspections to verify system code compliance, including proper valve operation, piping integrity, fire department connection operation, and removal of debris and trash from the system. Of course, as a dry system, expect a delay in getting water to the nozzle as air is bled from the system.

This leads to another method of attack. The engine company crew attempts to guesstimate the location of the vehicle fire. The officer and crew proceed to the level of the fire with high-rise kits or hotel packs along with a utility rope. They then hoist a 2½- or three-inch supply line to the level of the fire and advance it in proximity of the burning vehicle at which time they attach the high-rise kit or hotel pack to the supply line and advance it on the burning vehicle.



Tactical Considerations for Vehicle Fires in Aboveground Parking Garages Continued

There are remaining challenges with this method: If the hoseline is stretched across an interior ramp or traffic way, there's a risk that the hose will be run over by civilian vehicles operating within the building; some types of aboveground parking garages include ramps that transverse the core of the building for almost the entire length. This type of construction places physical barriers such as railing, grating, sloped roadways, and fences between the supply line being advanced and the fire area (photo 2). For this reason, it is necessary to preplan all of these facilities and for first-arriving crews to conduct a thorough and rapid reconnaissance prior to stretching the initial attack lines.

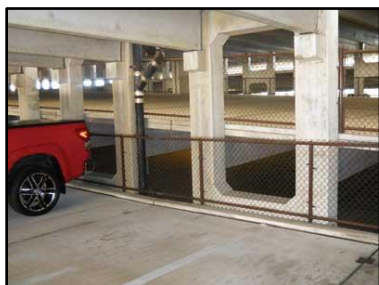


Photo 2: These sloped roadways and parking slots are deep inside the structure. Note the physical barriers that will slow hoseline advancement. This type of design can permit running fuel to drop down to the lower levels or the fire to autoextend to the upper levels.

SAFETY AND TACTICAL CONSIDERATIONS

When operating at vehicle fires inside aboveground parking garages, you may want to consider the following:

- Immediately secure the area to eliminate civilian pedestrians and vehicular traffic. This is particularly important to ensure that firefighters are not struck by vehicles and hoselines are not damaged. Secure all ramps upstream and downstream of the incident.
- It is quite common for fuel to leak from burning vehicles. Anticipate the spread of leaking fuel, especially when the burning vehicles are on a sloped floor. Other structures of this type incorporate floor drains that can transport burning fuels to remote locations. This may necessitate assigning an entire company to monitor and deal with this aspect of the incident.
- Although the structure most often has an open-air design, the tremendous volumes of smoke generated by vehicle fires coupled with the low ceiling height, and possibly sprinkler heads creating "cool smoke," dictate the need for the initial attack crew and subsequent crews to bring thermal imaging cameras with them. They will help the crew that encounters a wall of thick smoke to not only rapidly locate the fire but also to observe vehicles and people on the other side of the incident, running fuel fires, ceiling conditions, floor drains, and possibly standpipe connections.
- The close proximity of a heavily involved vehicle to the edge of an interior ramp combined with low ceiling height may allow for fire to lap or autoextend to a vehicle on the level above the burning vehicle much like fires autoextend vertically by windows on a normal building (photo 2). This necessitates assigning a crew to check areas above the fire level.
- Delays in discovering and reporting the vehicle fire to the fire department; low ceiling heat confinement; and the time required to hoist hoselines, locate the fire, and traverse to the fire location can easily result in several vehicles becoming well involved by the time the initial attack crew reaches the fire location. This will most likely require a sustained water supply to the attack engine and possibly additional lines.
- The assignment of two or more engines to stretch lines and attack the fire, a crew to assess vertical extension, personnel to secure vehicular traffic flow, and crews to address possible running fuel fires clearly demonstrates that a crew of four to five firefighters (regardless of how many units they respond on) may be woefully insufficient to efficiently and safely conduct operations. Consider assigning an upgraded response or even a structural response

to vehicle fires inside these structures. Company officers arriving at a dispatched "car fire" and discovering that the vehicle is inside such a building should not hesitate to upgrade the assignment. You can always cancel responding units later if you don't need them.

Serious vehicle fires in modern aboveground parking garages are not very technically challenging to well-trained crews and officers. They do, however, often require a significant increase in responding firefighters and an increased situational awareness of the unique and uncommon problems presented.

Source: O'Connell, J. (2014). *Tactical considerations for vehicle fires in aboveground parking garages*. *Fire Engineering*. Retrieved from: https://www.fireengineering.com/firefighting/tactical-considerations-for-vehicle-fires-in-aboveground-parking-garages/?utm_medium=email&utm_source=fe_daily_newsletter&utm_campaign=2021-02-25

Fire Prevention

The Bureau Never Sleeps

By: Division Chief
Garth Schumacher



Grilling Safety

Warmer weather is here and hopefully here to stay for a while. As I write this the ice is melting off of Lake Winnebago and the river broke up without flooding good ole' FDL.

Now that things are warming up I'm sure like me, many of you will now turn to the grill as a primary means of cooking dinner. It seems once the weather and temperatures are more tenable for outdoor grilling I find myself out there cooking nearly every night. Whether it's charcoal or a gas grill there is just something about the taste of food off of the grill.

I know my food always tastes better after sizzling on the grill for a few minutes, and the vegetables...OH MY, the mouth is already watering!!

Like all methods of cooking though, there are some avoidable dangers that we can mitigate prior to turning on the grill or stoking the coals on the BBQ.



First, you want to make sure that your grill is not in a place where the radiant heat will ignite combustibles like siding or patio furniture, and that your grill is not located inside a structure or under an overhang connected to your home.

Second, you should make sure that your source for igniting the grill be it gas or charcoal is properly connected or in the case of charcoal that the lighter fluid, if used, is not near the grill when lighting the coals, this can prevent dangerous flare ups from occurring.



Lastly Keep your grill clean, a grill that is laden with grease is a ticking time bomb. It only takes a brief unattended moment for that grill to get hot enough to ignite the caked on grease, believe me!!

When that happens and the neighbors finally leave your yard and you are now the talk of the neighborhood you soon learn to make sure your grill is clean. Or if you prefer to be the talk of the neighborhood and nearly burn your house down, by all means neglect your grill. Its not emabarassing to be working for the fire department and nearly start your house on fire because your grill is dirty, not one bit!

In any case, spring is near, brats, burgers, and steaks are sure to be sizzling, lets make sure that the things that are sizzling are on the grill and not around the grill.

*Until next month,
stay safe!*



Current Status of New Construction

- Fairfield Inn at 925 S. Rolling Meadows Drive – Building is under construction
- River Hills Mixed Use Development on S. Main St. – Buildings 1, 2, 3, 4, 5, 6, 7, 8 & 9 are complete and 10, 11, 12 are under construction
- Forest Mall – Demolition continues
- Badger Liquor – Warehouse is under construction
- Huberty CPA's on S. Pioneer Rd. – New Construction
- Excel Engineering – New addition
- Country Lane Cottages - Townhouses under construction
- Sullys Tavern – Under Construction
- Holiday Collision Center - Under Construction

Grilling Safety

There's nothing like outdoor grilling. It's one of the most popular ways to cook food. But, a grill placed too close to anything that can burn is a fire hazard. They can be very hot, causing burn injuries. Follow these simple tips and you will be on the way to safe grilling.

SAFETY TIPS

- » Propane and charcoal BBQ grills should only be used outdoors.
- » The grill should be placed well away from the home, deck railings and out from under eaves and overhanging branches.
- » Keep children and pets at least three feet away from the grill area.
- » Keep your grill clean by removing grease or fat buildup from the grills and in trays below the grill.
- » Never leave your grill unattended.
- » Always make sure your gas grill lid is open before lighting it.

CHARCOAL GRILLS

- » There are several ways to get the charcoal ready to use. Charcoal chimney starters allow you to start the charcoal using newspaper as a fuel.
- » If you use a starter fluid, use only charcoal starter fluid. Never add charcoal fluid or any other flammable liquids to the fire.
- » Keep charcoal fluid out of the reach of children and away from heat sources.
- » There are also electric charcoal starters, which do not use fire. Be sure to use an extension cord for outdoor use.
- » When you are finished grilling, let the coals completely cool before disposing in a metal container.

PROPANE Grills

Check the gas tank hose for leaks before using it for the first time each year. Apply a light soap and water solution to the hose. A propane leak will release bubbles. If your grill has a gas leak, by smell or the soapy bubble test, and there is no flame, turn off both the gas tank and the grill. If the leak stops, get the grill serviced by a professional before using it again. If the leak does not stop, call the fire department. **If you smell gas while cooking, immediately get away from the grill and call the fire department.** Do not move the grill.

If the flame goes out, turn the grill and gas off and wait at least **5 minutes** before re-lighting it.

FACTS

- ! July is the peak month for grill fires.
- ! Roughly half of the injuries involving grills are thermal burns.



**NATIONAL FIRE
PROTECTION ASSOCIATION**
The leading information and knowledge resource
on fire, electrical and related hazards





PEER FITNESS TIPS

By: Peer Fitness Trainer
Jack Prall

Ways to Boost Testosterone

Author: Pete McCall

Anabolic steroids are usually associated with illegal performance-enhancing drugs that athletes take when trying to get an edge on the competition, but the truth is that we all have anabolic steroids in our bodies. In fact, anabolic steroids such as testosterone, which is naturally produced by the body, are essential for building muscle and increasing strength. Read on to learn seven things about testosterone and how you can use exercise to increase your body's ability to produce it.

1. Anabolic refers to a hormone the body produces that promotes growth (by contrast, catabolic hormones are those that break down a substance into smaller components). A steroid hormone interacts with receptors in the nucleus of a cell, while a peptide hormone works with receptors on a cell membrane. Testosterone is an anabolic steroid the body produces that in addition to other functions, promotes muscle growth by interacting with receptors in the nuclei of muscle cells to help repair muscle proteins damaged during exercise.

2. Testosterone is also an androgen that promotes sexual development in men. Testosterone is produced primarily in the Leydig cells of the male testes. Women can produce testosterone in the ovaries and adrenal glands; however, they produce much less than men, which means the fear of developing "bulky muscles" from two strength-training workouts per week are unfounded and scientifically impossible. The

synthetic testosterone taken by those looking to promote rapid muscle growth is called exogenous androgen because it is a substance produced outside of the body. Whether you want to call it an anabolic steroid or an androgen, both are correct, testosterone is a completely natural substance that enhances muscle growth as part of the normal post-exercise repair and recovery process.

3. As you age, your body will produce less testosterone. Andropause affects men over the age of 30, causing them to produce less testosterone.

4. But here's some good news: According to the research, certain types of exercise can help your body produce testosterone, even in the later years of the adult lifespan. A study by Baker and colleagues, for example, had three groups of men separated according to age (20-26 years, 38-53 years and 59-72 years) perform the same strength training program of six exercises using 80% one repetition maximum for three sets of 10 repetitions. Each group had blood drawn before and after the workout to measure how the exercise influenced testosterone production. Prior to the workout the younger group had a higher level of Testosterone, but after the workout all three groups showed an increase in the hormone. These findings suggest that you should make high-intensity strength training a consistent part of your exercise program if you want to maintain testosterone in your body during the aging process.

5. Even if you are a little older and have been sedentary for a period of time, research suggests high-intensity interval training (HIT) can help improve the production of free testosterone. In this study, 22 sedentary male participants (average age: 62 years) performed a total of nine HIT workouts on a bicycle ergometer; each workout consisted of six sprint intervals of 30 seconds each followed by three-minute recovery intervals. Participants' total testosterone increased by an average of 17% as a result of the HIT. The authors suggested that "HIT appears [to be] a sufficient stimulus to improve free-Testosterone in lifelong sedentary aging men."

6. Multiple sets of strength-training exercises performed to the point of fatigue could be an effective strategy for enhancing testosterone production. According to a literature review by Kraemer and Ratamess, strength training causes the body to make four specific adaptations as it relates to testosterone production; (1) acute changes during and within the first 30 minutes post-exercise; (2) long-term changes that increase resting levels; (3) long-term changes in how efficiently the body produces testosterone as the result of exercise; and (4) an increase in the number of receptor sites that interact with testosterone. As receptor sites increase, there is a better chance that the elevated levels of circulating testosterone post-exercise will have a positive effect on muscle growth. The researchers concluded that a high volume of high-intensity strength training that engage large amounts of muscle mass combined with

relatively short rest intervals of one minute or less helps to promote testosterone production.

7. Enhancing the metabolic effect of strength training by reaching a point of fatigue can be an effective way to ensure that the body produces enough testosterone to promote muscle growth. In a review of the research literature, Vingren and colleagues noted that heavy strength training promotes both total testosterone and free testosterone (the levels of the hormone circulating through the bloodstream that can attach to the binding proteins responsible for carrying it to receptor sites in cell nuclei). The researchers suggest that to promote testosterone, exercise selection should focus on compound movements with shorter rest intervals.

While the body does produce less testosterone over the lifespan, exercising to a point of fatigue for either strength or cardio is essential for testosterone production. And here's a bonus tip: Testosterone is produced during the REM cycles of sleep, which means that practicing good sleep hygiene is essential for optimizing the repair and recover process, particularly on the days when you schedule your most intense workouts. On the other hand, if you have big plans in the evening that might disrupt your normal sleep pattern, consider scheduling a lower-intensity workout because there's no sense pushing yourself in the gym if you won't have the opportunity to experience optimal muscle repair while you sleep.